



MOHAWK

Local School District

Preparing today's students for tomorrow's challenges

Mohawk Local Schools Algebra II

Quarter 3 Curriculum Guide

Mathematical Practices

1. Make Sense of Problems and Persevere in Solving them
2. Reasoning Abstractly & Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Critical Areas of Focus Being Addressed:

- Trigonometric Functions

F.TF.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. [DOK 1]

DOK 1:

Define a radian measure of an angle as the length of the arc on the unit circle subtended by the angle. Define terminal and initial side of an angle on the unit circle.

F.TF.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle. [DOK 1]

DOK 1:

Explain the relationship between a counterclockwise radian measure of an angle along the unit circle, terminal coordinate on the unit circle of that angle, and the associated real number. Explain how radian measures of angles of the unit circle in the coordinate plane enable the extension of trigonometric functions to all real numbers.

<p>F.TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.>(*Modeling standard) [DOK 2]</p>	<p>DOK 1: Define and recognize the amplitude, frequency, and midline parameters in a symbolic trigonometric function.</p> <p>DOK 2: Interpret the parameters of a trigonometric function (amplitude, frequency, and midline) in the context of real-world situations. Explain why real-world or mathematical phenomena exhibits characteristics of periodicity. Choose trigonometric functions to model periodic phenomena for which the amplitude, frequency, and midline are already specified.</p>
<p>F.TF.8 Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$, given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$, and the quadrant of the angle. [DOK 2]</p>	<p>DOK 1: Define trigonometric ratios as related to the unit circle.</p> <p>DOK 2: Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ Use the Pythagorean identity, $\sin^2(\theta) + \cos^2(\theta) = 1$, to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$, given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$, and the quadrant of the angle.</p>